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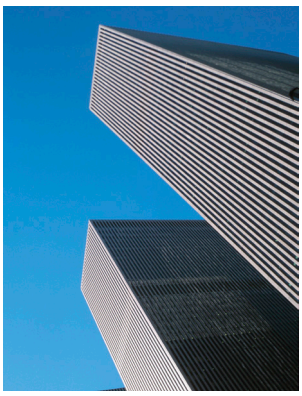
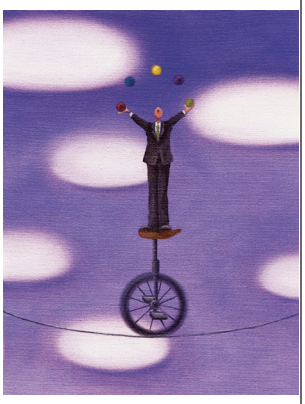

Mastering ICAAP

Achieving excellence in the new world of scarce capital

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McKinsey Working Papers on Risk presents McKinsey's best current thinking on risk and risk management. The papers represent a broad range of views, both sector-specific and cross-cutting, and are intended to encourage discussion internally and externally. Working papers may be republished through other internal or external channels. Please address correspondence to the managing editor, Rob McNish (rob_mcnish@mckinsey.com)

Mastering ICAAP: Achieving excellence in the new world of scarce capital

Executive summary

With regulators now employing Pillar 2—and especially the Internal Capital Adequacy Process (ICAAP)—to accelerate the changes mandated by Basel III, banks are under pressure to integrate their Pillar 1 and Pillar 2 processes to create a consistent and unified approach, and limit regulatory costs. However, given banks' widely varying and continually evolving approaches, the disparities in their risk-related results, and regulators' discretionary powers to interpret the depth and content of Pillar 2 requirements, the current situation is fraught with uncertainty. Even worse, different practices by national regulators carry some risk of further inconsistencies and may create an unlevel playing field.

To help banks navigate through these ambiguities, we have analyzed the ICAAP practices of 19 major European banks based on structured interviews with bank executives, a review of banks' public documents, and our own experience in ICAAP reviews and implementations. The analysis will help banks understand current practice and serve as a guidepost to the widespread adoption of leading practices.

Our analysis has yielded two macro findings:

- As Basel III is implemented, most banks will be more constrained by a shortage of regulatory capital than by any lack of economic capital (indeed, economic capital will be available). At present, however, one-third of the banks we studied find that economic capital ratios are the greater constraint on their capital.

- We estimate that new regulatory practices under Pillar 2 will drive about 30 percent of the full Basel III effect due in 2019, and is already equal to the Basel III effect due in 2016.[1]

The research has also produced some critical insights for banks as they grapple with ICAAP:

- Most banks' ICAAPs can benefit substantially from a greater connection between internal risk and capital models (the focus of the past few years) and simple, effective, and transparent management processes. To help create this connection, banks should:

  — Ensure close involvement of senior leaders in the formulation of risk strategy and governance of the risk function.

  — Use a "dashboard" of critical metrics that help the bank translate its risk appetite into operational risk limits that frontline risk managers will use—and not ignore.

  — Achieve closer alignment of capital planning and corporate strategy to ensure that banks achieve the best possible use of their capital.

- In risk and capital modeling, we found two needs:

  — Enhance stress testing and scenario analyses, where an understanding of the "going concern" and "gone concern" concepts, and the important trade-offs involved, is essential.

  — Regularly revisit the approach to modeling material non–Pillar 1 risk types such as business risk, reputational risk, and others, where there is not yet a common standard.

1 For more on the effects of Basel III, see *McKinsey Working Papers on Risk, Number 26*: "Basel III and European banking: Its impact, how banks might respond, and the challenges of implementation," November 2010, www.mckinsey.com.

- Banking groups, especially those with a multinational presence, may have to create both a group ICAAP and a local ICAAP for capitalized subsidiaries—a challenge for many. Depending on jurisdiction, savvy banks may be able to obtain a waiver from this obligation.

The new emphasis on ICAAP has implications for banks and their regulators and for the larger financial system. Apart from accelerating an industry-wide capital shortage, new practices under Pillar 2 and ICAAP may give rise to an unlevel playing field across jurisdictions. Because Pillar 2 is principles-based rather than rules-based, it is subject to national supervision, which carries a risk of inconsistent interpretations and regulatory uncertainty. In light of Basel III and its complexities, some institutions are already changing the "lens" they use to guide the bank, switching from an economic to a strictly regulatory perspective. But this may well weaken the bank's internal risk-management practices.

Of the 19 banks analyzed, not one consistently reaches best practice. Many are strong in a couple of areas but have room to improve elsewhere. The benefits of excellence in ICAAP are clear. Strong compliance, of course, is the chief benefit; clear principles in capital calculation and management will help banks avoid regulatory constraints or even penalties. Some banks may be able to leverage ICAAP strengths to give themselves a competitive edge—for example, through better capital allocation and enhanced risk-adjusted performance measurement. And in an environment of tight capital, excellence in ICAAP implementation can help the bank make the most efficient use of this scarce resource.

Introduction

Basel II, published in final form in 2006, lays out a three-pillar approach to risk and capital management for banks. Pillar 1 outlines a complex set of definitions, processes, and formulas to calculate minimum regulatory capital requirements. Pillar 3 mandates the disclosures that banks must make to provide investors and the public with full transparency.

Pillar 2, the focus of this paper, describes the mandatory processes for both banks and regulators to fulfill the capital-adequacy requirements. Banks have to conduct an ICAAP to demonstrate that they have implemented methods and procedures to ensure adequate capital resources, with due attention to all material risk. Regulators have to conduct a Supervisory Review and Evaluation Process (SREP) to assess the soundness of a bank's ICAAP and take any appropriate actions that may be required.

The ICAAP supplements Pillar 1's minimum regulatory capital requirements; it considers a broader range of risk types and the bank's risk- and capital-management capabilities. At the center of most banks' ICAAP are their internal risk models. These models often calculate capital requirements that are lower than the regulatory minimum because of diversification effects and other adjustments that can be explicitly considered in internal models. This is just a gesture, of course. By law, banks cannot undercut the regulatory minimums. More often than not, however, the ICAAP may result in higher capital requirements, for two main reasons: a broader range of risks is covered compared with Pillar 1 definitions, and banks' SREP often reveals inadequacies in banks' risk and capital management that must be covered with higher charges.

ICAAP: Greater focus, changing expectations

While banks spent a good deal of time and money developing these models, by far the greater part of their attention before the economic crisis was focused on compliance with Pillar 1. Recent regulatory changes to Pillar 1, which constitute the bulk of the Basel III proposals, have only made that focus more acute.[2] McKinsey's Capital Management Survey found that more than two-thirds of large European banks largely or fully relied on Pillar 1 in managing their capital position.[3] Regulators, too, spent most of their time assessing Pillar 1 implementation.

2 *McKinsey Working Papers on Risk, Number 26*, www.mckinsey.com.

In 2008–09, however, the near-meltdown of the banking sector revealed that the shared focus on Pillar 1 came at a significant cost. The worst of these costs was that Pillar 1 tended to significantly underestimate both market and counterparty risk in trading books (ironically, something that could be observed in the sophisticated internal models some banks created for their ICAAP). Furthermore, even now, Pillar 1 does not consider some risks, such as business risk (the risk that a business will be materially altered or even rendered unviable through a shock or other change, as happened to the securitization and structured-finance businesses during the crisis), concentration risk, liquidity risk, and reputational risk, all of which proved to be substantial during the crisis.

To address the shortcomings in the measurement of credit and market risk, the Basel Committee on Banking Supervision (BCBS) has issued a new set of rules (Basel III) that builds on its earlier framework (Basel II). The main focus of Basel III is to strengthen Pillar 1, by adding substantial new requirements for capital, liquidity, and funding. We estimate that European banks will need €1.1 trillion of additional Tier 1 capital, as well as vast amounts of liquidity and funding, before mitigating actions.[4]

But Basel III will take several years to phase in, and in an effort to drive change faster, regulators are now focusing more intently on Pillar 2 and ICAAP. We have analyzed the implications of the evolution of ICAAP practices and found that about 30 percent of the full effect of Basel III might be felt as current practices evolve (Exhibit 1).[5] Put another way, we estimate that ICAAP practices will have the same effect as the Basel III–related capital shortfall anticipated in 2016.

Some European regulators have developed special SREP practices to foster increased capitalization of banks, often using a hybrid of Pillar 1 and Pillar 2 capital requirements to compensate for the perceived weaknesses of each approach. For example, the Financial Services Authority (FSA) conducts thorough reviews of a bank's risk assessments and risk processes, which may result in Individual Capital Guidance (ICG) factors that can increase Pillar 1 capital requirements by between 40 and 70 percent. Other European regulators use the maximum of Pillar 1 and Pillar 2, whichever is greater, for each asset class to calculate minimum capital. In the US, the Federal Reserve has mandated stress tests, as has the European Banking Authority[6] (EBA) in Europe. Regulators are conducting many more audits and inspections as provided for in Pillar 2. In 2009, the German regulator BaFin conducted about 65 percent of its audits on the organizational and risk-management duties spelled out in Pillar 2, up from 50 percent in 2008.[7]

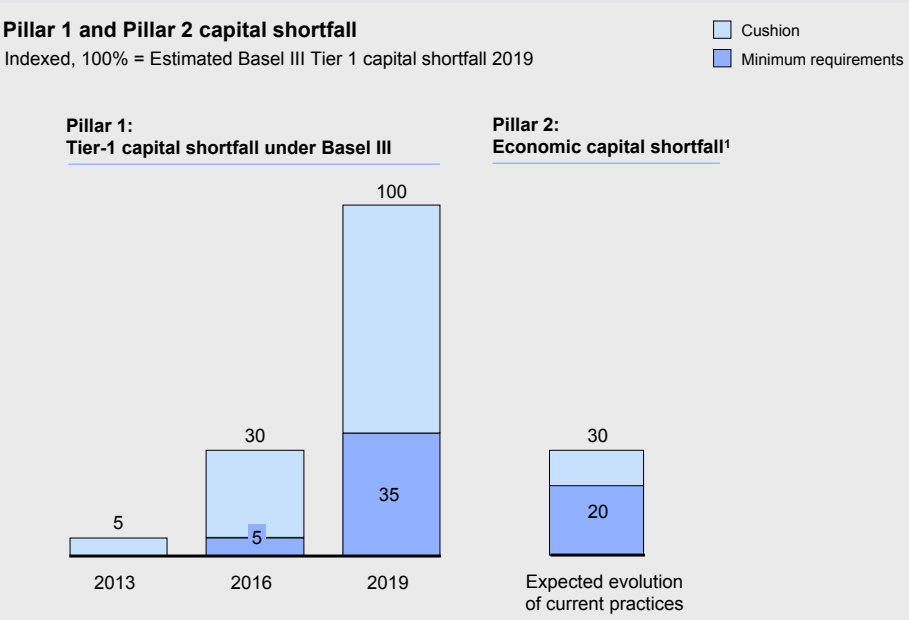
The past year has also seen the revival of supervisory colleges to enhance information exchange and cooperation among banking supervisors—a clear outgrowth of the supervisory role outlined in Pillar 2. To be sure, there is not yet a consensus approach among Europe's regulators, but the broad trend toward greater scrutiny and insistence on transparent capital-adequacy processes is here to stay. Pillar 2 is likely to continue to edge closer to a rules-based rather than a principles-based approach.[8] With that, key benefits of the principles-based approach might be lost, namely the flexibility to accommodate the characteristics of individual institutions, the professional judgment of bankers and regulators, and the ability to adapt to future developments in the marketplace—all of which help keep the playing field level.

For their part, banks are also changing their thinking about ICAAP and Pillar 2. Evidence suggests that banks that managed to integrate their internal models into robust risk-management processes performed better throughout the crisis than banks managing capital solely on Pillar 1. But the focus of the pre-crisis period,

3 McKinsey Capital Management Survey 2008, 25 banks surveyed.
4 *McKinsey Working Papers on Risk, Number 26*, www.mckinsey.com.
5 We have conducted the analysis of Tier 1 capital under both Pillar 1 and Pillar 2. Because we anticipate that regulatory capital and economic capital will converge in the coming years, we express Pillar 2's effect in terms of economic capital.
6 Formerly Committee of European Banking Supervisors (CEBS).
7 BaFin Annual Report, 2009.
8 Broadly speaking, financial regulatory regimes can be divided into these two approaches. A rules-based approach prescribes a detailed list of rules for banks to follow, whereas a principles-based approach defines key objectives for banks to achieve. In Basel II, Pillar 1 is a rules-based approach, whereas Pillar 2 is a principles-based approach. We argue that in Basel III, Pillar 2 is now evolving into a rules-based approach.

Exhibit 1

ICAAP may accelerate a large part of the Basel III capital shortfall.



1 The analysis for both Pillar 1 and Pillar 2 is of Basel III Tier-1 capital. We portray the results for Pillar 2 as economic capital because we anticipate that as regulatory and economic capital converge, economic capital will become the standard for regulatory discussions.

methods and models, is giving way to a new focus on improving management processes. Many banks' models performed poorly in the crisis; some banks even switched off their internal models due to lack of reliability and performance. And long-established value-at-risk (VAR) systems approved by regulators were shown to be of limited use, as they did not anticipate extreme volatility or lacked certain risk types such as basis risk[9] or market-liquidity risk.

All this has given banks pause. The model-based approach will not go away, of course; models will be continually improved and will play a big, ongoing role in the detection of risks and the development of a specific risk-management strategy. But banks and regulators alike believe they should be supplemented with effective, simple, and transparent management processes.

How should they do it? To answer that question, we first present our analysis of banks' performance on the core components of ICAAP and draw on this analysis, and on McKinsey's collective experience, to identify best practices. We conclude by offering some insight into the special challenges facing banking groups and international banks.

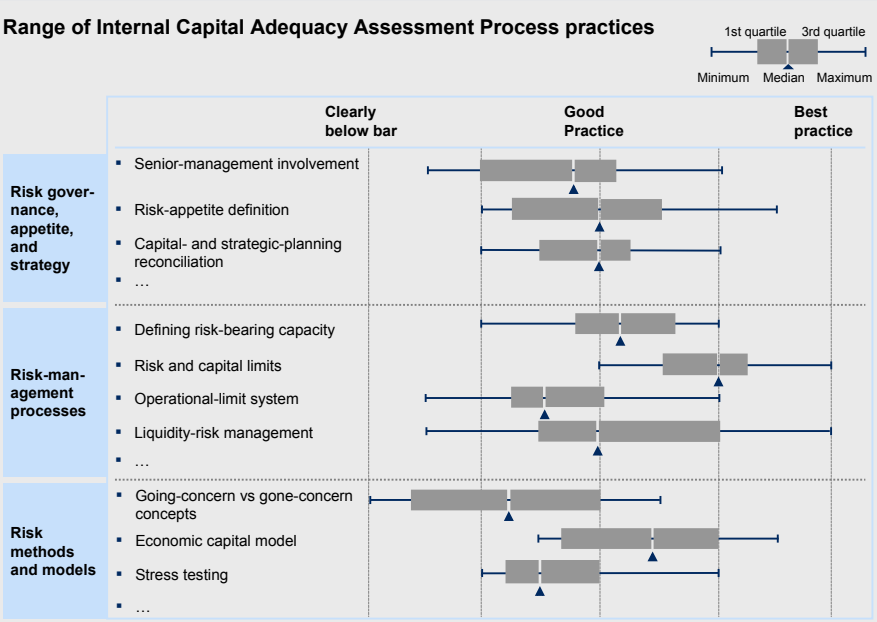
Mastering ICAAP: Notes from the field

Banks have been conducting ICAAP for several years now, and much has been learned. To assess the current state of the art, we systematically analyzed 19 big European banks, including the 15 largest by assets, using insights gained from structured interviews with bank leaders and publicly available information (annual and Pillar 3 reports). See "McKinsey's ICAAP benchmarking" on p. 7 for details of our methodology. Our analysis focused on three essential elements of ICAAP: (1) risk governance, appetite, and strategy; (2) risk-management processes;

9 The risk associated with imperfect hedging, when a mismatch occurs between the asset to be hedged and the underlying asset of the derivative.

Exhibit 2

European banks enjoy different degrees of success in their ICAAP practices.



and (3) risk methods and models.[10] Each element presents banks with a number of design choices, and each has its own characteristic challenges. Banks have indeed made very different design choices and have enjoyed correspondingly different degrees of success in their ICAAP practices. In this section, we discuss some of these choices and challenges and present some leading practices that banks have developed in response.

Governance and strategy largely define the effectiveness of the other elements, that is, risk-management processes and risk methods and models. Quite a number of banks have fallen into the trap of building reasonable processes and models but failing to ensure that senior managers are involved and understand these processes and models. Without this, they appear consigned to remain "paper tigers." Exhibit 2 lays out some examples of the range of practices of European banks in ICAAP.

Risk governance, appetite, and strategy

In this element, regulators have in mind three main actions that banks must take:

- Defining the extent of responsibility, accountability, and involvement of senior management
- Defining and articulating the risk appetite
- Reconciling capital planning and strategic planning

Close involvement of senior management in risk governance and strategy proved to be one of the biggest factors determining banks' performance during the crisis. In October 2009, the Senior Supervisors Group (a gathering of

10 There are several other risk-related issues that are not encompassed in these categories but are still important to the ICAAP. Some are beyond the scope of this paper; some are addressed in its final section.

seven leading financial-services supervisors from across the world) highlighted the need for boards to be actively engaged in enterprise risk management—including overseeing, setting, and monitoring risk appetite, supported by clear and transparent reporting to senior management.[11]

This was in response to the problems that were all too visible in the crisis—at one big bank after another, boards and management failed to understand the nature or the size of the risks their banks were taking on. In some cases, senior management had to conduct special training sessions prior to a regulatory audit to educate board members on the fundamentals of the bank's risk management. Cross-type risks that arose in some banks' business models, such as the links between liquidity, market, and credit risk in securitizations, were especially hard for boards to detect. At other banks, stringent risk-management standards create such operational complexity that reports are not always accurate or timely. In many cases, risk reports slow down decision making; at their worst, when they provide overwhelming data without sufficient analysis, they are simply not taken seriously.

The ways in which management should be involved will be specific to the size and culture of the given bank and the nature of its business model. However, the following essentials should be considered: senior management has to have a comprehensive picture of all material-risk types across the enterprise and a good understanding of the relevant underlying drivers at any time. Regular, structured, and transparent management reporting should be a part of the processes of the risk strategy, enterprise risk management, and risk committees. Moreover, senior management should also have a good understanding of model assumptions and limitations and should get actively involved in identifying the material-risk drivers across the businesses and defining potential stress scenarios.

Making this happen is a challenge for the risk-management function. One useful step risk managers can take is to speak the language of business rather than of risk when presenting their findings and advice to board members and senior managers. Nothing is clearer than communicating the bottom line: the potential impact of risks on the P&L and the balance sheet. This kind of clarity is especially helpful when dealing with the technical and even arcane matters that regulation now requires the board to take up.

Risk appetite is the amount of risk that a bank is willing to take on in pursuit of profit; it is closely related to the bank's business strategy.[12] A risk-appetite statement is the formal way of expressing these risks. Developing the risk-appetite statement is a cornerstone of the bank's approach to risk and business strategy as a whole.[13]

The Institute of International Finance (IIF) has formulated recommendations and best practices for determining a bank's risk appetite: "Firms should set basic goals for risk appetite and strategy (and) consider all types of risks when defining risk appetite."[14] The IIF report emphasized two criteria for risk-appetite statements: they should include all financial and nonfinancial risk, and they should contain both quantitative and qualitative elements.[15]

In practice, most banks do not yet meet this goal. Before 2008, most banks defined a simple financial target in relation to their risk; typically, a bond-target rating or a P&L target. Ninety percent of the banks participating in the McKinsey Capital Management Survey 2008 used such a target rating to define their risk appetites; other measures of financial strength, such as the ability to pay dividends or to maintain business lines, were at that time perceived to be far less

11 Senior Supervisors Group, *Risk-management lessons from the global banking crisis of 2008,* October 2009, p. 6.
12 Risk appetite should not be confused with risk-bearing capacity. Risk-bearing capacity is a measure of the capital available to absorb adverse risk; risk appetite is a larger concept that includes risk-bearing capacity along with target capital or risk-return ratios, an understanding of the kinds of risks that the bank wants to own, and its ability to manage and mitigate those risks.
13 We gratefully acknowledge an internal McKinsey paper on risk appetite by Charles Roxburgh and Matthieu Lemerle for some of the thinking in this section.
14 Institute of International Finance (IIF), *Final Report of the IIF Committee on Market Best Practices,* July 2008, p. 11.
15 In the near future, the IIF is expected to update its guidance to ensure that liquidity risk is considered in the risk-appetite statement.

McKinsey's ICAAP benchmarking

We have conducted a benchmark analysis of the ICAAP methods employed by 19 leading European banks, using publicly available information[1] supplemented by interviews with bank executives and McKinsey's experts. The comparison reveals a wide range of approaches to the assessment of risks and capital adequacy. Our analysis looks at both capital demand (capital requirements and risk drivers) and capital supply (risk-bearing capacity). While banks often model demand with quite advanced approaches, the modeling of risk-bearing capacity tends to be rudimentary. Most banks use either regulatory capital or adjusted regulatory capital to calculate risk-bearing capacity.

Note that the analysis below is current: it is based on today's regulatory needs under Basel II, Pillar 1, as well as today's economic capital needs under Basel II, Pillar 2.

Regulatory needs under Pillar 1 will significantly change under Basel III: regulatory minimum Tier 1 capital requirements will increase by 170 percent. Of this, 60 percent will be driven by an increase in risk-weighted assets (RWAs), mainly in the trading book; this will begin to take effect sometime in 2011. The remaining 110 percent will be driven by higher capital ratios. At the same time, Basel III will also reform capital supply; the capital deductions and other changes will substantially reduce banks' capital bases. We estimate that the capital shortfall implied in Basel III's Tier 1 target ratios is 60 percent of outstanding European Tier 1 capital.[2]

In the executive summary and introduction, we have noted that Pillar 2 is already, in effect, raising capital requirements. Many supervisors are now requesting standards for capital supply that are comparable to the full implementation of Basel III. The analysis focuses on the situation at the end of 2009, before banks' mitigating actions and business-model changes.

Capital requirements and risk drivers

With few exceptions, banks in the sample use an economic capital model to determine their capital requirements and risk drivers. However, practices vary widely. In particular, the assessment of risks beyond credit, market, and operational risks can be described as arbitrary. In addition, there are substantial differences in the choice of confidence levels for capital models.

Economic capital requirements are lower than regulatory capital requirements for half of the banks in our sample: these banks report their economic capital requirements as between 85 and 100 percent of regulatory capital requirements. The other 50 percent of banks in the sample say their economic capital requirements exceed regulatory capital requirements; the ratio at these banks is between 105 and 120 percent. There was one outlier in the sample, at 170 percent (Exhibit 1).

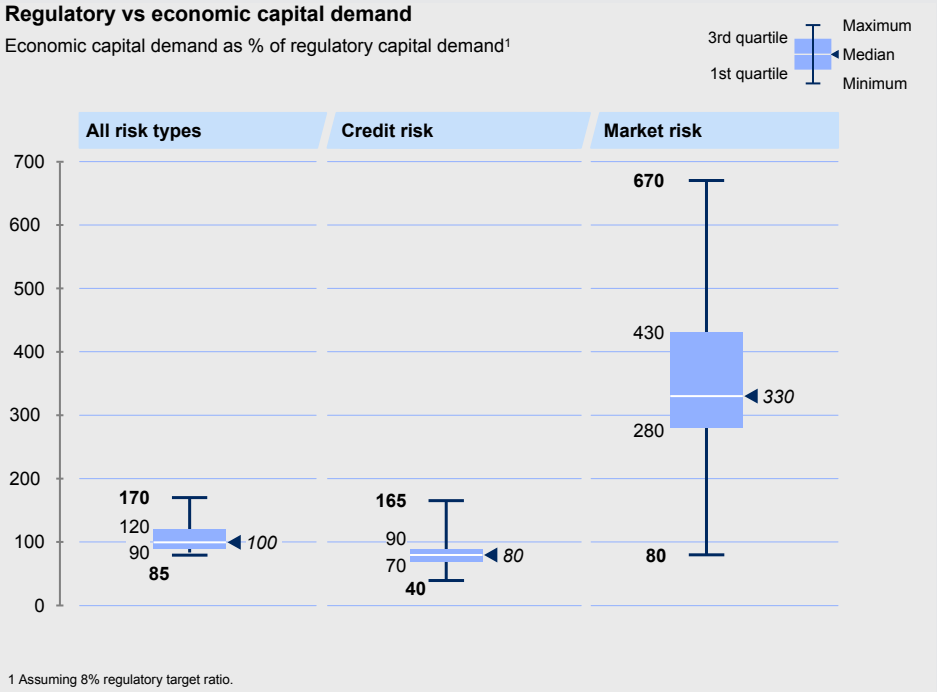
Different risk types and different confidence intervals largely explain the divergence between economic and regulatory capital calculations within banks, and among economic capital models across banks. All banks consider credit, market, and operational risk in their economic capital. These are calculated at confidence intervals of 99.95 percent (30 percent of banks) to 99.97 percent (60 percent); one bank uses 99.98 percent.

The other types of risk most frequently included in the economic capital models are concentration and business risks. Both are considered by nearly 60 percent of the banks. Other risks that banks quantify in their capital-requirement models include pension-assets risk (40 percent), interest-rate risk in the banking book (30 percent), equity-investment risk (25 percent), and fixed-assets risk (25 percent). Twenty-five percent of banks also add a capital cushion to absorb potential model risks. The diversification effect among the risk types is considered by

1 Annual reports and Pillar 3 reports, 2009 and 2010.
2 *McKinsey Working Papers on Risk, Number 26*, www.mckinsey.com.

Exhibit 1

Economic and regulatory capital calculations often diverge.



1 Assuming 8% regulatory target ratio.

80 percent of banks. Within the banks' ICAAP, some of the risks, for example, strategic risk, regulatory risk, and reputational risk, are either considered subcategories of other risk types—often operational risk—or not included in any of the economic capital models and thus assessed only qualitatively (Exhibit 2).

Liquidity risk is a special case. All the banks we analyzed assess liquidity risk with a separate framework and define liquidity limits for steering purposes. None of the analyzed banks includes liquidity risk in its capital model.

Two other observations can be made about banks' modeling of capital requirements. First, all banks focus on a gone-concern scenario. Only 20 percent also use a going-concern perspective. Second, 75 percent report that they use stress tests for economic capital.

Risk-bearing capacity

As noted, most banks take a regulatory or accounting perspective[3] for the assessment of their risk-bearing capacity; very few banks take a full economic perspective (Exhibit 3).

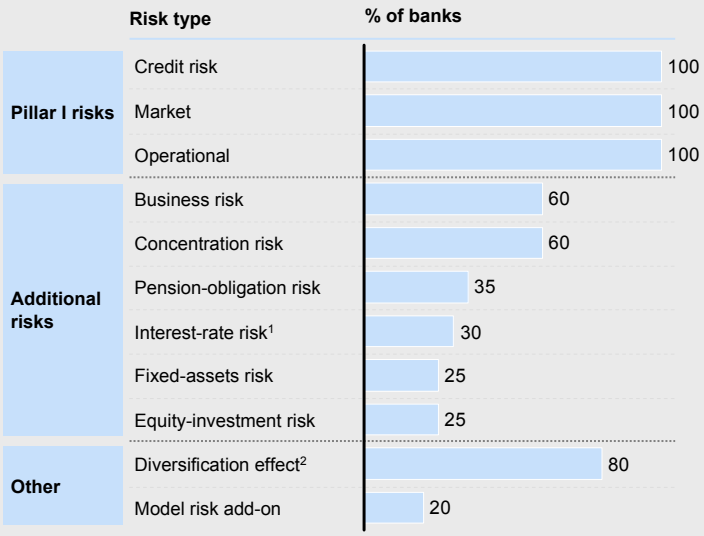
About two-thirds of the banks analyzed adjust the regulatory capital to calculate their risk-bearing capacity. Adjustments vary; most have to do with hybrid instruments, minority interests, revaluation reserves, unrealized gains and losses, goodwill, and other intangible assets. Around 90 percent of the banks in the sample deduct revaluation reserves, goodwill, and other intangible assets from the available capital. A clear minority of banks (around 30 percent) deducts deferred tax assets, future dividends, pension-benefit assets, and hidden reserves. Only 35 percent of banks include components of Tier 2 capital in their risk-bearing capacity.

3 For reasons of simplicity, accounting and regulatory perspectives are not further distinguished.

Exhibit 2

Some risks are assessed only quantitatively.

Capital demand: Risks included in banks' economic-risk models
%



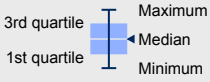
1 Interest-rate risk in the banking book.
2 Diversification across risk types.

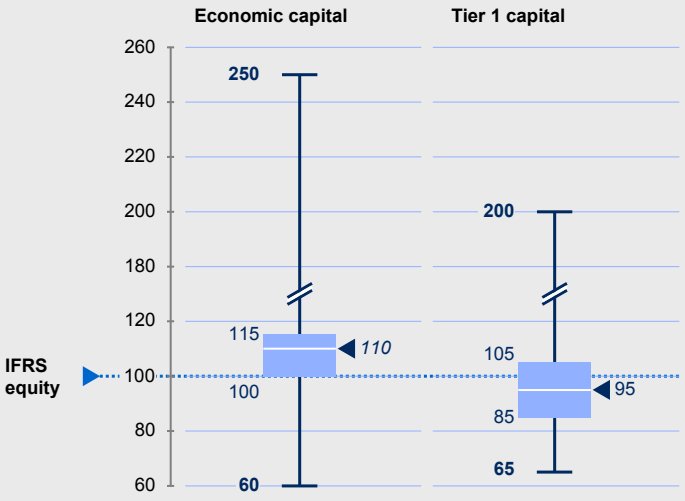
Exhibit 3

Banks estimate that economic risk-bearing capacity is larger than Tier 1 capital.

Capital supply: Economic, Tier 1, and accounting

As % of IFRS[1] equity, 2009

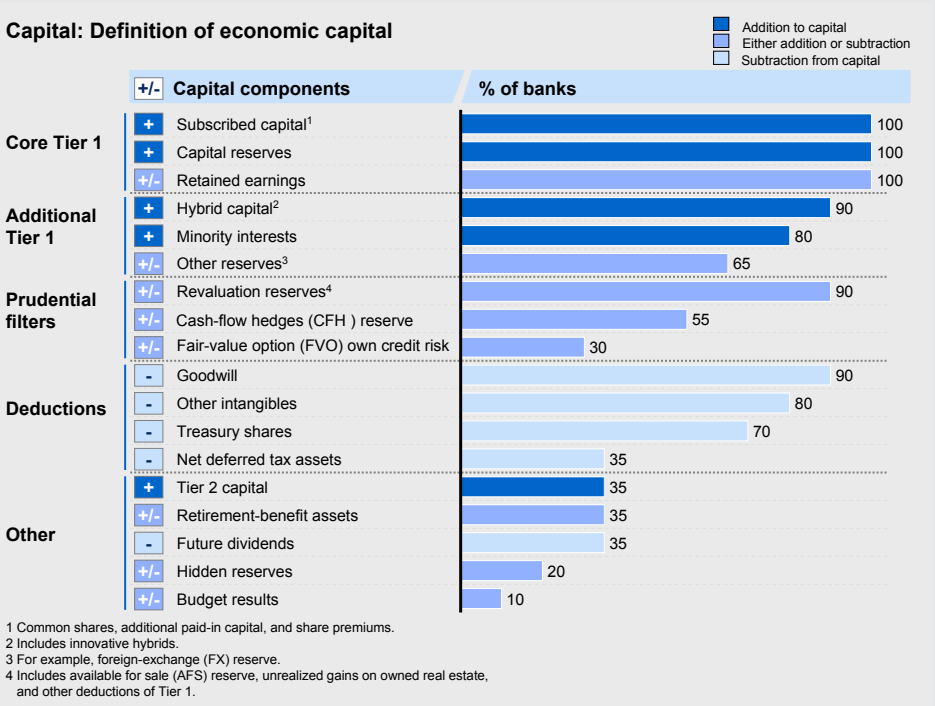




1 International Financial Reporting Standards.

Exhibit 4

Our analysis shows clear distinctions in banks' practices.



1 Common shares, additional paid-in capital, and share premiums.
2 Includes innovative hybrids.
3 For example, foreign-exchange (FX) reserve.
4 Includes available for sale (AFS) reserve, unrealized gains on owned real estate, and other deductions of Tier 1.

The remaining third of banks (all regionally oriented rather than multinational institutions) define risk-bearing capacity as equal to regulatory Tier 1 capital (or even the sum of Tier 1 and Tier 2 capital).

Fifteen percent of the banks analyzed say their risk-bearing capacity is lower than their Tier 1 capital; 85 percent report risk-bearing capacity equal to or greater than Tier 1 capital. One bank reports that its risk-bearing capacity is not only greater than Tier 1 but also larger than the total regulatory capital. Exhibit 4 shows the full results from the banks we analyzed.

As mentioned above, our analysis is based on today's capital supply, under Basel II rules. We expect that in the future, banks' supply of economic capital will become nearly equal to their supply of Tier 1 capital.

important. When defining the risk appetite and managing risk taking, the banks were focused on maximizing return and achieving their P&L target, as balance-sheet constraints—capital and funding—were cheaply available.

Leading banks take a different view—and some have done so since before the crisis. These institutions use more sophisticated and continually refined systems to define their risk appetite. Typically these systems are designed to create a joint perspective on capital, funding, and risk-return trade-offs, thereby including other metrics, for example, return on equity (ROE), return on risk-adjusted capital (RORAC), risk-adjusted return on capital (RAROC), economic capital, Tier 1, leverage, and even funding ratios. Many of these metrics play an even more important role now under Basel III; they are multiplying, and their interplay is becoming more complex. Hence it is important for banks to have a sound understanding of the interdependencies of these metrics when defining their risk appetite. (However, banks should be careful not to rely on the metrics alone; experience and judgment must also be cultivated, especially with respect to the complex dynamics of balance sheets.)

What about nonfinancial risks? The IIF has determined that the risk-appetite statement should explicitly state the bank's willingness (or not) to take on nonfinancial risks, such as risks to reputation, environmental sustainability, and the loyalty of customers—all tasks requiring processes that differ from those for mitigating financial risk. In many cases, the definition of a bank's appetite for nonfinancial risk tends to be a rather anodyne statement of good intent. Most banks say that they have a very low appetite for nonfinancial risks—indeed many describe their policy as "zero tolerance." This may be laudable in theory but is unachievable in practice, and thus is an impractical definition of a bank's true risk appetite.

A better way is to decide (as regulators do in determining the nature of their regime) whether the bank needs hard and fast rules, or if it would be better suited to principles. The principles-based approach is preferable for institutions with a sound risk culture; the board can concentrate on understanding the relevant policies, freeing up time and energy to challenge management on key risk-control processes such as the limit system we discuss below.[16] At institutions where the risk culture is in development, a rules-based approach to the risk-appetite statement may be the better option.

Risk-appetite statements should meet some other goals. They should be fully embedded throughout the entire organization, helping to drive day-to-day decisions and serving as a basis to cascade risk limits down to business units—a concept we explore below under "Risk-management processes." And they should be periodically reviewed and updated, in line with the request of many European regulators.[17]

Reconciling capital planning and strategic planning is essential to ensure consistency between risk and business strategies. As capital becomes a scarce resource, banks must consider, as they never have before, the cost of capital, while still pursuing growth and profit. Banks that use their capital inefficiently will be left behind.

However, the goal of alignment remains an aspiration for many. Fewer than half of European banks define capital planning in line with business strategies and their risk-return profile.

Best-practice banks achieve a reasonably close alignment from the outset of their annual planning process, including, for example, rigid capital-allocation processes that line up risk and capital limits with funding capacity. Other banks have managed a one-time alignment of their capital and strategic planning as a byproduct of the crisis,

16 Risk culture is defined as the norms of behavior for individuals and groups that determine the bank's collective ability to identify and understand, openly discuss, and act on risks. For more on building a winning risk culture, see *McKinsey Working Papers on Risk, Number 16:* "Taking control of organizational risk culture," www.mckinsey.com.

17 Germany's MaRisk requires at least an annual update of risk strategy and appetite. Likewise, the Financial Services Authority (FSA) now requires ICAAP results to be provided annually, rather than biannually, which was the standard before the crisis.

when it was essential for survival. An alternative approach that some banks take is an annual review of risk strategy and appetite, which is then consolidated into the annual planning cycle.

For all institutions, a carefully designed ongoing process is needed to maintain alignment between capital and business planning in case of unexpected developments in the balance sheet or P&L. Good banks systematically and frequently monitor deviations from the plan, changes in risk provisioning, and developments that will affect their stress-testing scenarios. However, while adjusting to changes in the environment is important, bank managers must keep their eyes on the main goals: ensuring stability and creating as much planning certainty as possible.

Risk-management processes

While there are many vital risk-management processes, in our experience the single most important—and most controversial—is translating the bank's risk appetite into a limit system that is comprehensive but also understandable and practical. It is important because the success of banking operations, as measured by ROE or RORAC, is in effect a measure of the extent to which the bank has satisfied its appetite. To put it more bluntly, the limit system is where the rubber hits the road.

To design a limit system, banks must come up with answers to each of the following questions:

- Risk-bearing capacity: How much capital does the bank have on hand to absorb risk?
- Risk appetite: How much capital risk (that is, its capital limit) should the bank take against its risk-bearing capacity?
- Capital allocation: How should the bank allocate capital limits to business units?
- Making it work: How should the bank turn its capital limits into an operational limit system?

Behind these seemingly innocuous questions, however, lies a number of tough decisions and even trickier design choices that inevitably prove controversial.

Defining the risk-bearing capacity. Available capital can be defined in three different ways: from an economic, a regulatory, or an accounting perspective. Each of the three is important and serves a purpose. The regulatory perspective ensures fulfillment of the regulatory minimum requirements. An economic capital perspective includes expected and unexpected economic losses and should drive the bank's risk management, as we discuss below. And the accounting perspective, a balance-sheet view of capital, is important to avoid P&L and liquidity shortfalls.

These perspectives do not always agree, which leaves banks with a choice. For ICAAP, the most appropriate choices are regulatory capital, as specified in Pillar 1, and economic capital. If both views are in line, banks may choose one of them. If they are not in line, banks may instead choose an accounting perspective. But they should be aware that the accounting perspective may systematically over- or underestimate the capital available. It should therefore be used with caution, and banks should continue to monitor both regulatory and economic capital availability—even if this makes management decisions slightly more complex.

In this uncertain environment, there has been little consensus on the capital components of risk-bearing capacity; 10 percent of banks still use the regulatory Tier 1 definition and 20 percent use the sum of Tier 1 and Tier 2 capital. The new Basel III framework has set some new regulatory standards. The new guidelines explain more clearly the capital components that count under going-concern conditions. The new framework also takes a much stricter view than Basel II. While this is a Pillar 1 perspective, and bank managers will have to make up their own minds on their economic perspectives, they should expect to be challenged against the new Basel III guidelines. In fact, in the

future, regulatory and economic capital are expected to converge. See "McKinsey's ICAAP benchmarking" on p. 7 for more details.

This raises a fundamental question: Pillar 2 was originally intended to provide an advanced internal approach that is distinct from the simplified regulatory approach of Pillar 1. The greater sophistication of Pillar 2 is meant to capture subtleties, such as a consideration of business risk, that are not contemplated in Pillar 1. For this reason, many argue that future expected earnings—despite their exclusion from regulatory capital—should be included in Pillar 2's definition of economic risk-bearing capacity. After all, strong earnings and profitability determine the bank's ability to take risks, and economic risk-bearing capacity is the basis of a bank's risk appetite. Moreover, future expected earnings are typically acknowledged by rating agencies, and banks themselves use them in their analyses of their borrowers. Yet regulators often take a very conservative view that would bar banks from including planned earnings in the economic risk-bearing capacity—while at the same time requesting the inclusion of business risk in the Pillar 2 capital requirements. Several banks are currently struggling with this apparent contradiction.

Quantifying the risk appetite. In this step, banks transfer their risk appetite into a calculation of the capital it is willing to risk—its capital limit—a figure that should be closely aligned with the bank's business plan. Banks should consider both Pillar 1 and Pillar 2 requirements. A reasonable approach would be to derive a capital limit from the bank's available regulatory capital and its regulatory target ratios, and then to do the same with economic capital and economic target ratios. The more binding of the two would effectively define the capital risk appetite.[18]

Alternatively, banks can integrate economic and regulatory capital requirements into one model. This could be done by just using the maximum of Pillar 1 and Pillar 2 capital requirements. A more sophisticated and recently evolving concept is to do this by using an integrated capital risk model. The core idea is to consider many of the more probable and management-oriented triggers of risk, such as missing profit targets, rather than the single and less likely risk of default that traditional economic risk models use. One such trigger may be the risk of failing to meet minimum regulatory capital requirements. The economic risk of portfolios or businesses would be measured as their contribution to the risk of the bank violating its regulatory capital requirements (Exhibit 3).

Such an integrated model implicitly assumes a common definition for the available capital as discussed above: economic or regulatory capital, or book equity, as used in the accounting perspective.[19] Whatever method is chosen, the limit setting should consider a capital-surplus target. A bank accumulates this surplus to cope with volatility. It is typically kept at bank level and not allocated to businesses but obviously must still be considered when setting the bank's target for returns.

Assigning capital limits to business units. We see two principles that leading institutions apply when assigning risk limits to their businesses. First, banks should always allocate sufficient capital to a business—over and above the economic capital buffer—to be prudent and to cope with volatility. Second, in extending limits down through the organization, they should not go beyond a certain level of size and sophistication, which is typically found at the divisional or business-line level.

After these two design choices are addressed, the next consideration is the right metric for limit allocation. Senior management must define whether it wants to maximize return on regulatory capital (for example, return on risk-weighted assets), return on economic capital (for example, RORAC), return on accounting capital (ROE), or return on some integrated capital measure (as described above). For capital-allocation purposes, the bank needs a single measure of the rate of return to avoid essentially unsolvable conflicts that will arise when two metrics point in very different directions; further, a single measure will limit management complexity at the business-unit level.

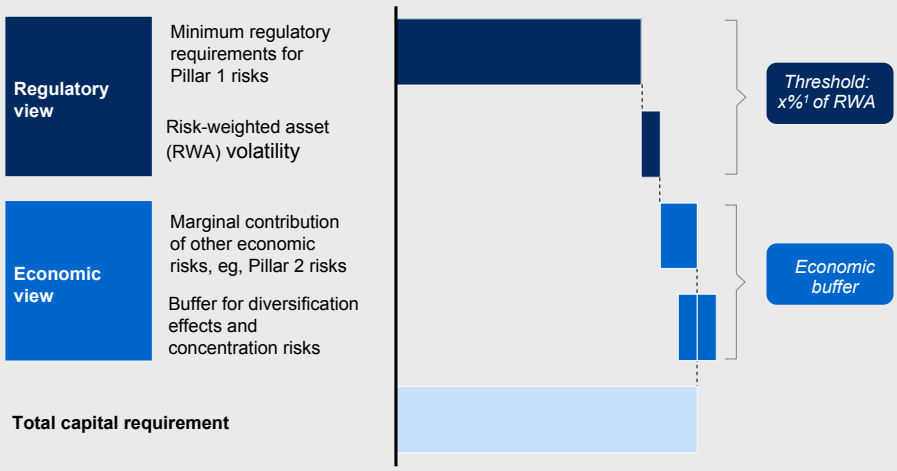
18 Banks should still include both regulatory and economic capital targets in their risk-appetite definition and ensure consistency of both ratios with their operational limit system and performance measurement

19 In addition, banks face design choices on "going concern" versus "gone concern" scenarios. See "Methods and models" below for more on these scenarios.

Exhibit 3

Economic risk can be viewed as the marginal contribution to the risk of not meeting minimum regulatory requirements.

The integrated risk model



1 For example: x = 4% for minimum Tier 1 capital ratio.

There is no one answer for all banks. Bank leaders must pick the measure they (and their stakeholders) feel comfortable with. Once this design choice has been made, banks should set their hurdle rates for a minimum acceptable return. Again, this is a judgment call that needs to be made in line with stakeholder expectations. Some banks may set a universal hurdle rate across the bank; banks with very different business lines (for example, retail and investment banking) may set different hurdle rates for each unit. After these choices have been made, the process of optimizing limits is straightforward. If businesses are constrained by economic or regulatory capital, the bank may decide to increase their capital, provided they are earning satisfactory returns above a hurdle rate. Alternatively, the bank may reduce risk taking by businesses that use capital inefficiently (that is, those that are earning low rates of return). Either step will rebalance the supply of and demand for capital.[20]

Translating capital limits into an operational limit system. The final question, how to communicate limits, boils down to this: what will get better results from system users—a pure regulatory capital measure, an internal capital limit such as VAR, something as simple as exposure, or (more likely) some combination?

As mentioned above, there is no golden rule. But it seems clear that at most banks, economic capital limits (and possibly even regulatory capital limits) are considered too complex by all frontline staff and managers[21] and may not include all risks such as basis risk. Accordingly, banks must translate these limits into very simple and tangible exposure

20 For more details on setting economic capital limits, see *McKinsey Working Papers on Risk, Number 24*: "The use of economic capital in performance management for banks: A perspective," www.mckinsey.com.

21 Part of the complexity arises because value-at-risk (VAR) measures are dependent on the portfolio composition. A new deal that looks profitable today might look worse tomorrow only because the portfolio composition changed "after the fact." This poses significant challenges for performance measurement and business buy-in.

limits for lending and counterparty risk, and into VAR-based limits on market risk for traders.[22] On the other hand, banks with a more complex trading portfolio will find that pure VAR-based limits may no longer be sufficient to steer their trading book: under the new market-risk framework (which many are calling "Basel II.5"), trades can easily move between the securitization and correlation book framework depending on whether they pass the liquidity test or not. Also, the Basel III requirements for credit-valuation adjustment (CVA) may add complexities to limit systems, as they require a close link between credit and market risk. See "Assessing counterparty credit risk" on p. 18 for more details.

Who should receive these limits? The right level to start translating enterprise capital limits into simple exposure or VAR limits depends on the sophistication of the front line and the level of detail required for its limit system. If too little information is provided, the system will not provide useful guidance to frontline risk managers; too much, and the system is bogged down.

One potential way to solve the conundrum is to take a different perspective and ask how much freedom the bank wants business leaders to have. The bank can then adjust the limit system accordingly. Whatever method it develops must be applied consistently and updated regularly. And because the translation of the bank's capital risk limits into a frontline limit system is likely to be imperfect, senior managers will need a full view of capital consumption; separately, they will also need transparency into risks not included in the capital calculation. This will help them spot problems, such as relationship managers consistently flirting with their limit in an attempt to maximize revenues.

Inevitably, some risk limits will need to be adjusted as conditions change, raising a tricky question for banks. All banks would agree that the limit system has to reflect the latest results from stress tests; another factor is the latest P&L, which is, after all, a record of how much risk has materialized and been absorbed. Banks have to make a judgment call about how much these deviations from the plan should be reflected in the limit system. One good way to address this question is to send proposed adjustments to the risk-strategy, enterprise-risk, or asset-liability committees.

Methods and models
In this element of ICAAP, banks are concerned with three technical considerations:

- Defining "going concern" versus "gone concern"
- Developing an economic risk model
- Integrating stress testing into their other risk work

Going concern versus gone concern. Generally speaking, a going concern is a business that functions without the threat of liquidation within the near future; a gone concern is a business that is in the process of being wound up (or may be in the near future).

The economic valuation of a bank's balance sheet is obviously very different in these two scenarios. Taken to the extreme, a gone-concern scenario—that is, liquidation— requires that both the bank's assets and the bank's capital be revalued significantly lower.

Our discussions with banks show that there is little consensus on the precise distinctions between the two scenarios despite the fact that the choice of scenario is the foundation of a bank's capital-adequacy framework and is currently at the center of regulators' attention.

22 These limits must then be supplemented by additional, business-specific limits on concentration and liquidity risks.

Exhibit 4

Different capital-coverage components are used for different circumstances.

Going-concern and gone-concern scenarios

	Scenario	Confidence interval[1] (time horizon)	Trigger	Typical economic-coverage capital
Going concern	Early warning	80% (30/250 days)	▪ Profit warning and negative publicity	▪ Budget results ▪ Hidden reserves (eg, fair-value reserves, shortfall vs expected loss)
			▪ Net loss in current period, failure to pay dividends, deferred to preferred dividends and potential rating downgrade	▪ P&L of the current period ▪ Accounting reserves (eg, deferred tax assets, goodwill and other intangibles, CFH[2] reserve)
	Severe stress	95% (30/250 days)	▪ Net balance-sheet loss and consumption of subscribed capital (eg, conversion of cumulative preferred shares)	▪ Retained earnings ▪ Capital reserves and other reserves ▪ Other Tier 1 capital components
			▪ Insolvency due to excess of debt over assets	▪ Subscribed capital and other paid-in capital ▪ Other core Tier 1 capital components ▪ Contingent convertibles[3]
Gone concern	Liquidation	99.98% (250 days)	▪ Failure to pay back debt (creditor protection)	▪ Hybrid capital and subordinated debt ▪ Other Tier 2 capital components
		100% (250 days)	▪ –	▪ Debt

1 Probability that scenario does not occur within a time horizon of one year (250 business days); some risk types (especially market risk) are generally analyzed for shorter periods.
2 Cash-flow hedge.
3 Depending on trigger criteria.

The simplest way to distinguish between going-concern and gone-concern conditions lies in the capital components that each invokes. A going-concern scenario requires high-quality capital to be reserved against risk; a gone-concern scenario allows the bank to tap lesser-quality capital.

More specifically, in a going-concern scenario, the corresponding risk-bearing capacity would consist of capital components that are always directly available to cover the risk, such as common equity. In a gone-concern scenario, additional capital components such as Tier 2 capital or subordinated debt become available. But what about hybrid capital? The answer is less clear: some say it is not available at times of stress, while others would argue that they weathered the crisis mainly by drawing on hybrid capital. Expected profit and deferred tax assets may be available in a going-concern environment but not in a gone-concern one.

Management often uses an extended going-concern concept to understand how confident it can be about achieving its targets in a normal (or a stressed) environment. Targets include not only avoiding liquidation, for which a high confidence level of above 99.9 percent is appropriate, but also meeting target capital ratios, profit targets, and dividend payments, for which confidence levels at around 80 percent may be sufficient. Different risk scenarios would evoke different capital-coverage components (Exhibit 4).

Finally, when banks choose between going concern and gone concern they should also consider the implications of the latest regulatory developments in Basel III. In theory, under Pillar 2, banks should make their own assessment of risk-bearing capacity, as discussed above. Yet Basel III sets some regulatory standards that cannot be ignored and against which each bank's assessment will be challenged: under Basel III, Tier 1 capital can be considered under going concern. For gone concern, Basel III mandates that the available regulatory capital be capable of fully absorbing losses at the point a bank becomes nonviable. (However, there does not appear to be a consensus yet

among regulators on the definition of "economic losses," nor on the time span over which these losses have to be realized.)

To meet this requirement, banks will of course look primarily to Tier 2 capital.[23] But contingent capital and "bail-in" instruments will likely play an increasing role here. Contingent convertible securities, or "cocos," are bonds that convert to equity at a predefined point of financial stress. Regulators are increasingly interested in the instruments as a way to create a cushion of extra bank capital at a lower cost than if they forced banks simply to raise more equity. The BCBS is developing guidelines for the use of contingent capital, to address issues of loss absorbency at the point of a bank's nonviability.[24] Another new and related form of capital, bail-in securities, gives regulators the power to impose losses at a time of their choosing and hence make bondholders share the cost of rescuing a fallen bank.

Economic-risk model. Almost all the banks we studied use an economic risk model to determine the capital requirements for ICAAP (though some of these models should properly be considered "EC Lite").[25] A leading bank will also use the regulatory view as a critical condition bound to its calculations; in this way, the bank ensures sufficient capital to cover its economic risk while at the same time meeting minimum regulatory capital ratios. All models include credit, market, and operational risk.

Banks' approaches vary considerably, however, as do their inclusion of other types of risks. For example, many banks do not measure business risks, although this is a major driver of capital requirements.[26] Liquidity risks are typically analyzed separately from capital measurement. Diversification effects play a significant role for many banks. This holds for diversification within risk types and especially for diversification across risk types. See "McKinsey's ICAAP benchmarking" on p. 7 for more details.

In fact, diversification effects are a key element of best-practice risk management. For example, the over-the-counter (OTC) derivative business may present opportunities for diversification between operational, credit, and market risk. Yet regulatory perspectives on the treatment of diversification effects still vary widely among jurisdictions. Even within the same jurisdiction, banks may at times see inconsistencies in their discussions with regulators and the requirements received from them. Diversification is thus another area in which banks are looking to regulators to establish and promote clear and consistent principles.

The advantages and disadvantages of different modeling approaches for economic risk, credit risk, market risk, and diversification effects are not our focus here. In our experience, the challenge for many banks is less about measuring individual risk types and more about getting beyond the modeling of diversification and correlation effects and truly understanding the deeper interdependencies of their risks, such as those between market and credit risk, or underlying risk drivers, such as CVA and "wrong way" risk. See "Assessing counterparty credit risk" on p. 18 for more details on CVA and wrong-way risk.

23 The Basel Committee for Banking Supervision is currently finalizing additional criteria, beyond full loss absorbency, against which Tier 1 and Tier 2 capital may be considered.
24 See Basel Committee for Banking Supervision press release, "Basel Committee issues final elements of the reforms to raise quality of regulatory capital," and annex: "Minimum requirements to ensure loss absorbency at the point of nonviability," January 13, 2011.
25 Banks that use a light approach regard it as a pragmatic way to reduce the complexity associated with a full EC system. This complexity was cited by many respondents to our survey. A typical "EC Lite" model will build on regulatory capital for Pillar 1 risks (potentially with adjusted confidence intervals) and add risk types not covered by Pillar 1, such as business and reputational risk as well as diversification effects.
26 One could also argue that business risk influences capital availability, but most banks do not currently consider it.

Assessing counterparty credit risk

Counterparty credit risk (CCR) refers to the risk of nonpayment or nonperformance in financial transactions such as over-the-counter (OTC) derivatives, repurchasing agreements, and securities financing. Many banks did not sufficiently capture CCR during the crisis, which is one reason that regulators are now emphasizing it. Three types of risk are embedded in CCR.

First is the risk of **replacement cost**, which is the estimated exposure to the counterparty at the time it is no longer able to meet its obligations. Replacement cost is determined by the payment and performance terms of the transactions involved, taking into account netting and collateral agreements. The main method for measuring replacement cost is an estimation of the expected positive exposure (EPE) profile, achieved through a Monte Carlo modeling of market-risk drivers, complemented by a modeling of margin-call processes. Although not all banks have developed such an approach due to the associated implementation challenges, it is considered best practice for a bank with a material presence in derivatives markets. The EPE model typically provides some relief for regulatory risk-weighted assets (RWAs) of between 20 and 50 percent, even after Basel III add-ons.

The risk of **credit-valuation adjustments** (CVAs) reflects potential changes in the credit quality of the counterparty. If the counterparty's creditworthiness declines, the value of financial transactions it has signed also declines. The Basel III charge for CVA is based on the likely deterioration in a transaction's market value in a given time period, typically one year. As such, it reflects the volatility associated with the credit quality of the counterparty, as expressed, for example, in credit spreads. Although many leading banks have established CVAs as considerations in frontline pricing, the concept received insufficient consideration in risk assessment prior to the crisis. Many banks were thus caught off guard and suffered high and immediate losses as a result of the credit deterioration of their counterparties.

Wrong-way risk arises because of the negative correlation between credit quality and exposure. Wrong-way risk takes two forms: general and specific.

- General wrong-way risk is the bigger problem for most banks' credit books; it is found when creditworthiness and exposure directly correlate with market-risk factors. Consider a swap where a bank buys the local currency of the country in which the counterparty resides. If the currency falls, the bank loses—and then, because the fall in the currency negatively affects the counterparty's creditworthiness, it loses some more. Other examples include owning assets denominated in the owner's currency—something that is sometimes required by local regulators, as in Malaysia or India, and encouraged by the new liquidity rules in Basel III. If the currency falls, these banks will lose something—and if the government falls, they will lose everything. General wrong-way risk may also arise when banks are given sovereign bonds as collateral, as many are.

- Specific wrong-way risk typically stems from badly constructed deals; in an ideal world, it should not exist. One example is when the credit quality of a seller of protection and the quality of the underlying assets are highly correlated, such as in a credit-default swap with the counterparty's subsidiary. Since the financial crisis, leading banks have established an algorithm to systematically identify and report specific wrong-way risks. When banks do identify specific wrong-way risk, best practice is to replace the EPE with the most conservative value, likely the full notional value.

Regulatory scrutiny of CCR is increasing. Regulators now ask for "stressed" EPEs to measure replacement risk, with the result that EPEs may be resetting at a permanently higher level. Basel III's treatment of CVA changes may increase total RWAs by a factor of as much as three. Regulators currently address wrong-way risk via the "alpha" factor. Only a few banks have managed to decrease regulatory alpha from 1.4 to 1.2 by building a regulatory-approved internal model for wrong-way risk. The alpha factor may be amended by qualitative elements in the new Basel III framework.

Stress testing. Finally, as noted, regulators across Europe have recently subjected banks to stress tests of their capital adequacy. The EBA is conducting another round of tests.[27] And in 2010 both the FSA and CEBS, as it was then called, introduced new stress-testing rules.[28]

The guidelines from FSA and CEBS emphasize common themes. They both call for banks to envisage more hypothetical scenarios—ones that some banks consider highly unlikely. They both ask banks to consider all material-risk types, in particular earnings risk. They both require banks to do reverse stress testing, by working backward from liquidation to develop scenarios that make the business model unviable. Both regulators' guidelines also make stress testing an integral part of ICAAP, with close involvement of senior management (and specific discussion of risk concentration). Finally, the regulators emphasize the importance of the integration of stress-testing results into the business's decision making.

To achieve integration with the business and with ICAAP, leading banks are setting up a centrally coordinated, top-down stress-testing process, with senior leaders at bank and business levels involved throughout. A centrally managed process helps ensure effective oversight and control and is the best way to inform strategic decisions. A central scenario working group can work with businesses to get their insights and ensure their participation.

These banks then go on to integrate stress-test results with core risk processes. Many are superimposing additional limits (based on stress-test results) on their everyday limits, which are meant only to manage losses under normal market conditions. Stress limits seek to contain risks that could bring down the bank. Stress tests can also reveal new circumstances under which contingency planning is necessary. Leading banks are also using the results of their comprehensive stress tests as the centerpiece of their presentations to regulators, as an emblem of the soundness of their enterprise-risk-management practices.

Banks can also tie stress-test results to strategy development. Decisions on portfolio weightings, acquisitions and divestiture, and other similar topics should be informed with the results of stress tests. Banks should be careful not to develop stress testing in a vacuum. One bank left the development of stress tests to a small team isolated in the risk group. Consequently no one in the bank believed in the tests or their implications. To correct the problem, the bank set up an interdisciplinary working group to revise its approach.

Another important aspect of the stress-testing exercise lately emphasized by regulators (notably the FSA) is a predefined recovery or resolution plan in case of an extreme event (the "living will"). Such plans might include hedges for a stressed scenario, disposal of businesses, and a slowing of business growth. The definition of a recovery plan may help banks mitigate the potentially severe penalty of additional capital surcharges for extreme events.

ICAAP for banking groups and in international arenas

Banks that use a holding-company structure face a particular challenge: they must implement ICAAP for the group and for every subsidiary (though, as we discuss below, it may be possible for some to avoid the requirement). Regulators want to be sure that legal entities are themselves adequately capitalized, as the bank holding company may not have full control of the subsidiary's risk, and capital may not flow easily within the group in case of a crisis.

27 This second stress test is being coordinated with national supervisory authorities, the European Systemic Risk Board (ESRB), the European Central Bank (ECB), and the European Commission; approximately 90 European banks are participating. The tests are scheduled to be completed in June 2011.
28 The new Basel III framework also calls for some stress testing of Pillar 1 capital and liquidity.

Exhibit 5

Banks typically use one of three approaches.

Approaches toward group and local ICAAP

✓ Yes ✗ No (✓) Partial – N/A

	Characteristics	Stand-alone EC				Group EC contribution			Regulatory capital	
		Bank 1	Bank 2	Bank 3	Bank 4	Bank 5	Bank 6	Bank 7	Bank 8	Bank 9
Group ICAAP	▪ Calculation of EC	✓	✓	✓	✓	✓	✓	✓	✓	✗
	▪ Integration of EC in bank-steering process	✓	✗	✓	✓	✓	(✓)	(✓)	(✓)	✗
Local ICAAP	▪ Local stand-alone EC calculation	✓	✓	✓	(✓)	(✓)	-	✗	✗	✗
	▪ Central EC calculation and allocation to legal entities	✗	✗	✗	✓	✓	✓	✓	✗	✗
	▪ Adjustment of central EC for local effects,eg, diversification	-	-	-	✓	-	✗	✗	✗	-
		Banks with significant retail network/franchise				Banks with stronger wholesale focus				

As the FSA, one of the key promoters of "subsidiarization," says, the purpose of conducting both group and local ICAAPs is "to assess the extent … to which a firm's assessment, calculated on a consolidated basis, is lower than it would be if each separate legal entity were to assess the amount of capital it would require to mitigate its risks … were it not part of a group."

While EBA guidelines suggest that home and host supervisors should coordinate closely and reach a joint decision, the fact remains that each legal entity has to comply with its local requirements. This would not appear to be terribly difficult for Europe-based banks with subsidiaries in other European countries. But it might be challenging for banks with legal entities outside the European Union. Some host supervisors seem content to rely largely on the home regulator, but others (often non-European ones) are asking for a full-fledged ICAAP presentation. For example, India requires "every bank to have an ICAAP," including "foreign banks that have a branch presence in India … . Their ICAAP should cover their Indian operations only."

Some countries explicitly require banks to have a separate economic capital model for subsidiaries. These regulators rightly note that the common practice of allocating the group's economic capital to subsidiaries has deficiencies: in particular, this practice typically overstates the diversification effects (derived at group level from a business spread across countries and regions), and it does not account for the risk from internal credit lines, which can skew results. Exhibit 5 shows the range of approaches to group and local ICAAPs employed by selected banks.

Given this environment, banking groups in general and cross-border banks in particular should design a holistic ICAAP program that includes all legal entities, whether regulated or not. The program should be as standardized as possible in its approach to understanding each subsidiary's risk appetite, exposure, and risk-bearing capacity, while acknowledging local requirements, such as those in the UK and India. One key feature of a holistic program must be a modular approach that provides for a standardized rollout across the bank's country organizations.

A free pass?

In some cases, European banks may find relief from the burden of the local ICAAP. A bank holding company that has full control of its subsidiary may negotiate a waiver with its home-country regulator. The waiver is an agreement to apply selected regulatory requirements—in particular ICAAP—at the holding level only, rather than also at subsidiary or legal-entity levels.

To get a waiver, the bank holding company must demonstrate that it has full control of the subsidiary's risk-management processes and relevant management decisions. This should be straightforward for subsidiaries based in the same country as the holding company. And it is easier to do with fully owned subsidiaries; it is very tricky, or even impossible, for subsidiaries that are listed companies in which the holding company has an equity stake, and difficult to achieve for banks with subsidiaries based in other countries.

A waiver is helpful if subsidiaries are capital-constrained or if the bank holding company does not want to transfer capital among subsidiaries. A holding company that wins a waiver may avoid many stand-alone requirements regarding processes, models, and reporting. On the other hand, it still has to prove full integration into the group's risk-management processes. This is not trivial, as it often comes with IT requirements and other considerations.

□ □ □

Our research and experience lead us to suggest seven core questions to help bank leaders assess their current ICAAP. Banks that have mastered ICAAP will answer "yes" to all; banks that answer "no" to any should investigate the opportunity to improve their process.

1. Have we succeeded in integrating the ICAAP into the bank's governance structure and organization, for example, by establishing a dedicated committee that meets regularly?

2. Is our senior management overseeing, setting, and monitoring risk appetite and strategy? Does the board have a comprehensive picture of all material risks?

3. Do we have a mechanism for defining our risk appetite that is closely related to the bank's business strategy?

4. Do we regularly reconcile capital and strategic planning and ensure consistency between business and risk strategies?

5. Have we succeeded in translating the risk appetite into a comprehensive yet workable limit system?

6. When defining the capital risk-bearing capacity, have we thought through both going-concern and gone-concern scenarios? How confident are we about meeting specific going-concern targets, such as profit levels and dividend payments?

7. Do macroeconomic simulation and stress tests play a sufficiently prominent role in the bank's ICAAP?

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